

BLUE EARTH COUNTY HIGHWAY DEPARTMENT

CONSTRUCTION PLAN FOR BITUMINOUS
OVERLAY & AGGR. SHOULDER

COUNTY ROAD NO. 120

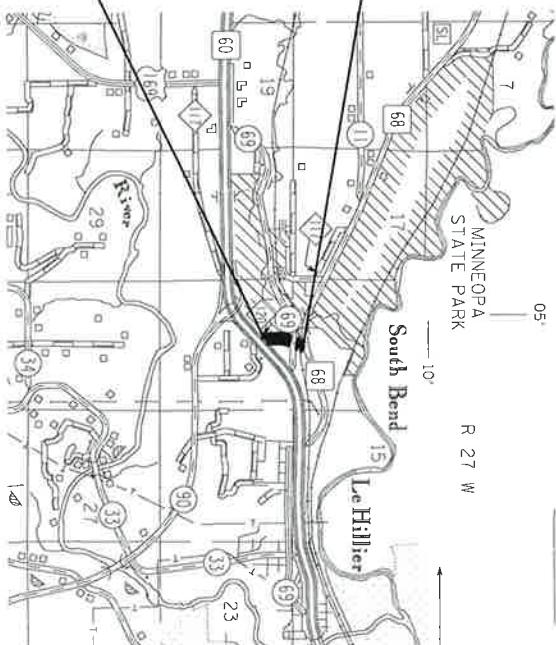


END CO. PROJ. NO. 8120

STA 19+34

BEGIN CO. PROJ. NO. 8120

STA 0+00



R 27 W

DESIGN DESIGNATION

ADT (Current Year) 354 2014
ADT (Future Year) 531 2034
ADT (Heavy Commercial)
ESAL 172,000
7 TON DESIGN
DESIGN SPEED 40 MPH
DESIGN SPEED NOT ACHIEVED AT:
SOIL FACTOR 130
SHOULDER WIDTH 3'
STOPPING SIGHT DISTANCE BASED ON
3.5' HEIGHT OF EYE
0.5' HEIGHT OF OBJECT

GOVERNING SPECIFICATIONS

THE 2005 EDITION OF THE MINNESOTA DEPARTMENT
OF TRANSPORTATION'S "STANDARD SPECIFICATIONS
FOR CONSTRUCTION" SHALL GOVERN.

PLAN NOT TO SCALE

BETWEEN: T.H. 169 AND CSAH No. 69
FROM: A PT. 1470' S. & 230' W. OF THE N.
1/4 COR. OF SEC. 21-108-27
TO: A PT. 175' N. & 40' E. OF THE N. 1/4
COR. OF SEC. 21-108-27

GROSS LENGTH 1,934.00 FEET 0.366 MILES
BRIDGE LENGTH 000.00 FEET 0.000 MILES
NET LENGTH 1,934.00 FEET 0.366 MILES

OVERLAYED IN: 1995 UNDER CO. PROJ. NO. 591

ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND ORDINANCES WILL BE
COMPLIED WITH, IN THE CONSTRUCTION OF THIS PROJECT.

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED
BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED
PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Alan Forsberg
COUNTY ENGINEER

ALAN FORSBERG

DATE *11 Nov 14* LIC. No. 14720

CO. PROJ. NO. 8120 SHEET NO. 1 OF 6 SHEETS

ESTIMATED QUANTITY

ITEM NO.	ITEM	UNIT	CR # 120	NON PART.	TOTAL
(1)	2118.501 AGGREGATE SURFACING, CL-2 (M)	TON	21	0	21
(1)	2221.501 AGGREGATE SHOULDERING, CL-1 (M)	TON	158	0	158
(1)	2232.501 MILL BITUMINOUS SURFACE	SQ YD	829	0	829
(1)	2360.501 SP TYPE 19.0 WEARING COURSE MIX (2.B)	TON	532	0	532
(2)	2580.501 TEMPORARY LANE MARKING	LIN FT	155	0	155

(1) BASIS OF PAYMENT SPECIFIED IN SPEC. 1903 SHALL BE MODIFIED TO PRECLUDE ANY PRICE ADJUSTMENT FOR INCREASED OR DECREASED QUANTITIES.
 (2) PLACED ON EVERY LIFT, REMOVED BEFORE NEXT LIFT AND PRIOR TO STRIPING.

CERT. BY Alan Frosberg L.I.C. NO. 14720 MAR. 10, 2014 CO. PROJ. NO. 8120 SHEET NO. 2 OF 6 SHEETS
 PROFESSIONAL ENGINEER

BASIS FOR PLANNED QUANTITIES

AGGREGATE SHOULDERING, & SURFACING
COMPACTED DRY DENSITY - 140 LBS. PER CU. FT.

BITUMINOUS SURFACE

BITUM. MAT'L FOR TACK WILL BE INCIDENTAL.

BITUM. MAT'L FOR WEAR COURSE AC (PG 58-28) 5.8% BY WEIGHT

BITUM. COURSES, 110 LBS. PER 1" / SQ. YD.

THE FOLLOWING STANDARD PLATES AS APPROVED BY THE FHWA SHALL APPLY

STANDARD PLATES	
PLATE NO.	DESCRIPTION
80001	STANDARD BARRICADES

SHLD. & SURF. QUANTITIES
ROAD # CR 120
PROJECT # CO. PROJ. No. 8120

LOCATION	LENGTH FEET	AVER WIDTH FEET	DEPTH INCHES	AGGR. SHLD. TON	AGGR. SURF. TON
SHOULDER CL-1M					
STA 0 + 0 TO STA 16 + 50 RT	1650	3	2	60	
STA 16 + 80 TO STA 19 + 34 RT	254	3	2	10	
STA 0 + 0 TO STA 16 + 50 LT	1650	3	2	60	
STA 16 + 80 TO STA 19 + 34 LT	254	3	2	10	
MATERIAL FOR FIELD ENTRANCES					
				18	
AGGR. SURFACING CL-2 (M)					
2 DRIVEWAYS @	7	TONS			14
1 INTERSECTIONS @	7	TONS			7
TOTAL					21

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CR 120 SUPERPAVE BITUM. CALCULATIONS

LOCATION	LENGTH FEET	AVER WIDTH FEET	DEPTH INCHES	WEAR TON
BITUM. WEAR				
STA 0 + 0 TO STA 16 + 50	1650	23	1.5	348
STA 16 + 80 TO STA 19 + 34	254	23	1.5	54
3 INTERSECTIONS @				90
2 DRIVEWAYS @				30
2 MAILBOX PADS @				10
	350	3	1.5	
TOTAL				532

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MILL BITUM. SURFACE

STATION TO STATION	LOC.	LENGTH	WIDTH	SQ.YD.
0 + 0 TO 1 + 0 CL		100	23	256
17 + 0 TO 17 + 55 CL		55	23	141
17 + 65 TO 19 + 34 CL		169	23	432
TOTAL				829

NOTES:
 START MILLING AT BEGINNING OF THE JOB AND END OF JOB
 AT 1.5" DEPTH AND TAPER OUT 100' TO 0".
 START MILLING 5' AWAY FROM R.R. TRACKS ON BOTH SIDES
 AT 1.5" DEEP AND TAPER OUT 50' TO 0"

QUANTITIES

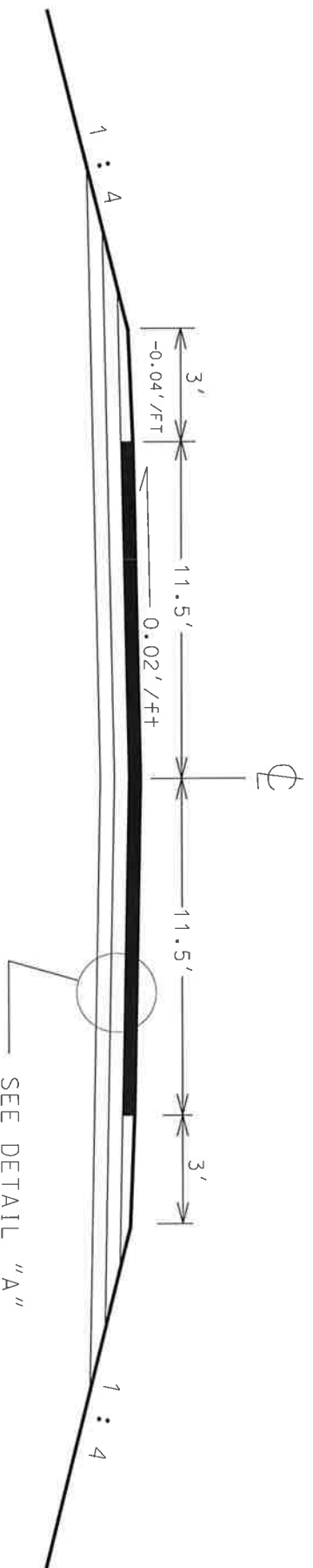
CERTIFIED BY

Alan Forberg

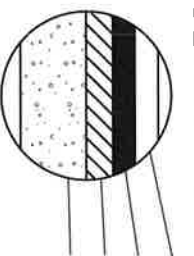
LIC. NO. 14720 MAR. 10, 2014

TYPICAL SECTION

STA 0 + 00 TO STA 16 + 50



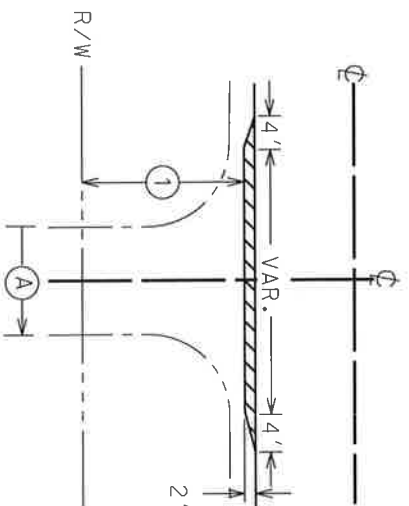
DETAIL "A"



- 1.5" SP WEARING COURSE MIXTURE (2360)
- INPLACE 1.5" WEARING COURSE MIXTURE (2331)
- INPLACE 2" BINDER COURSE MIXTURE (2331)
- INPLACE 6" AGGR. BASE CL-5 (2211)

BITUMINOUS APPROACHES AND ENTRANCES DETAIL

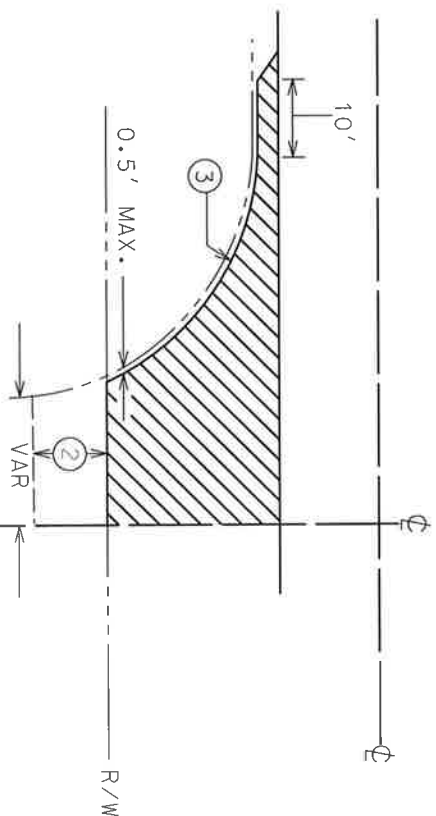
FIELD ENTRANCE



- (A) 20' FOR SINGLE F.E.
28' FOR DOUBLE F.E.

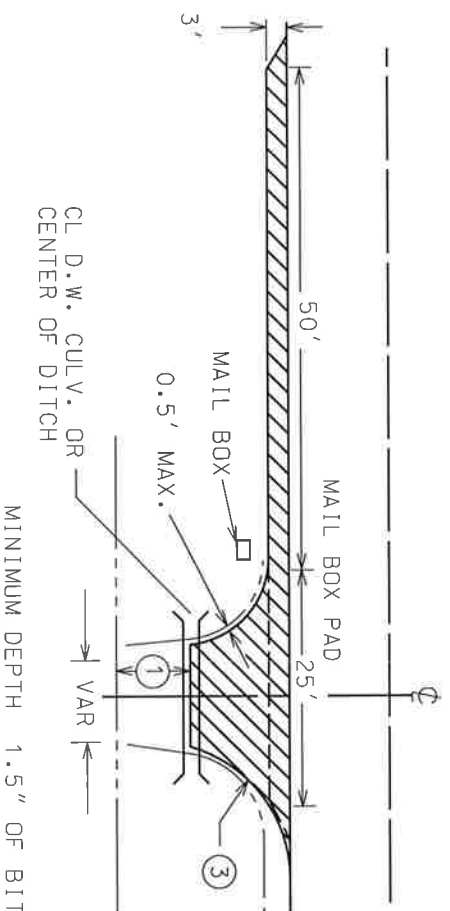
MINIMUM DEPTH 1.5" OF BIT

ROAD APPROACH



MINIMUM DEPTH 1.5" OF BIT

FARM & OTHER ENTRANCES



- (1) FINISH WITH AGGR. MATERIAL FROM EDGE OF BITUM. TO A MIN. OF 10'.
- (2) FINISH WITH AGGR. MATERIAL, MIN. OF 10'.
- (3) BITUM. RADIUS TO BE STAKED IN FIELD BY THE ENGINEER - 25' MIN. (FOR FARM D.W. CONSIDER 30' TO 40' MAX.)

CONTRACTOR WILL BE REQUIRED TO SHAPE & NOTCH ALL DRIVEWAYS, INTERSECTIONS & MAIL BOX PADS THAT ARE NOT ALREADY PAVED AS DIRECTED BY THE ENGINEER. WORK SHALL BE DONE INCIDENTAL TO THE WEAR.

CONTRACTOR WILL BE REQUIRED TO HAND FINISH SHOULDERS ON ALL APPROACHES AND ENTRANCES AS DIRECTED BY THE ENGINEER.